HEXCEL®

August 9, 1991

Mr. Gary Sanderson
Bureau of Environmental Evaluation and
Cleanup Responsibility Assessment
New Jersey Department of Environmental Protection
CN 028
Trenton, NJ 08625-0028

Re: **Proposed Remedial Investigation Activities at the Former Hexcel Facility**
Lodi Borough, Bergen County, New Jersey
ECRA Case #86009

Dear Mr. Sanderson:

The purpose of this letter is to respond to your request for additional field at the former Hexcel Industrial Chemicals Group ("Hexcel") facility located in Lodi, New Jersey, as outlined in your letter of July 12, 1991. The following letter describes investigation activities which we believe are sufficient to address those issues pertaining to soil and ground water sampling.

The site investigation activities described below, which are proposed as the final stage of remedial investigation, are intended to satisfy the requirements and recommendations set forth in your July 12, 1991 letter. The locations of all proposed monitoring wells and soil borings are indicated on Figure 1. The proposed analyses and sampling depths are summarized in Table 1. It is emphasized that some of the items in your letter request drilling of wells or borings in areas in which data have already been gathered and submitted or areas in which physical access is not possible. We are not, therefore, proposing further sampling activities in these areas, although this is certainly an area we should discuss at our upcoming meeting. In order that you understand our rationale for exclusion of these specific requests from our sampling plan, we have formulated responses to each of the items in your letter. For clarity of presentation, each item in your July 12, 1991 letter which pertains to sampling is restated below in its original form, followed by our response to the item.

A - SOILS

1. Item 20 - Soil Delineation Sampling

a. Hexcel has failed to adequately delineate the full horizontal extent of soil contamination. Locations having photoionization detector (PID) readings as high as 3000 part per million (ppm) [HS2-003] have not been horizontally delineated. This delineation sampling is required, with laboratory samples taken at the horizontal clean zone and analyzed for area specific contaminants. Horizontal delineation shall occur in all 4 direction from each contaminated boring. In addition, Hexcel failed to laboratory analyze soil sample numbers HS8, HS9, HS10 for priority pollutants +40 peaks (PP+40) and total petroleum hydrocarbons (TPH).

RESPONSE

Samples were collected from borings H/S-2, H/S-3, H/S-4, and H/S-5, as reported in the Interim Report, for the purpose of providing horizontal delineation of chemicals to the north of the alleyway. Analytical results indicated nondetectable levels of volatile organic compounds (VOCs) in borings H/S-4 and H/S-5, which establishes that the boundary of VOCs in soil is between borings H/S-3 and H/S-4. Further refinement of this delineation is not necessary for the design of the remediation program. Samples from numerous borings to the south and to the west were collected during the earlier ECRA investigation, although complete delineation in these directions was restricted by buildings. Further refinement of the delineation of VOCs in soil in an easterly direction may be possible. It is proposed, therefore, that soil samples be collected during the installation of well MW35 (discussed below) and analyzed for VOCs in order to provide delineation to the east. The boring will be designated as boring 507.

Samples collected from borings H/S-8, H/S-9, and H/S-10 were analyzed for VOCs only. These samples were not analyzed for PP+40 because borings 104 (MW18) and BG1 (MW01), located west and east, respectively, of these borings, did not contain detectable levels of parameters other than VOCs and TPH. In addition, only VOCs were detected in ground water in wells, with the exception of 31 µg/l of base/neutral extractable compounds detected in MW01. (It should be noted that the base/neutral compounds detected were phthalate compounds, which are common laboratory contaminants, and some of the phthalate compounds were also detected in the laboratory blanks.)

Because samples collected from borings H/S-8, H/S-9, and H/S-10 were analyzed only for VOCs, it is proposed that a new boring (designated as boring 113) be drilled immediately north of H/S-9 and that a sample be

collected from this boring and analyzed for TPH. Because these borings have already delineated VOCs and TPH in soils to the west and to the east, as discussed above, and delineation to the north is limited by the presence of the maintenance and product storage buildings, it is proposed that one additional boring be drilled for delineation to the south. The proposed boring, designated as boring 114, will be drilled at the Molnar Road property border, and samples collected from this boring will be analyzed for VOCs and TPH.

d. *Hexcel failed to implement Conditions 21C.1 of the Cleanup Plan Approval letter dated July 31, 1990 (Cleanup Plan Approval) for investigation of Areas 1, 5, 6, 8, and 13.*

RESPONSE

Area 1: Samples were collected from this area by Heritage Remediation/Engineering, Inc. following removal of the underground storage tanks. The samples were analyzed for TPH and polychlorinated biphenyls (PCBs). Analytical results will be submitted by Heritage in the Tank Closure Report. An additional soil boring, designated as boring 111, will be drilled in this area at the corner of the boiler room and the aboveground tank. Samples will be collected from approximately 2 feet below ground surface (BGS) and just above the water table and analyzed for VOCs. In addition, a soil boring designated as boring 112 will be drilled near the southeast corner of the aboveground tank. Samples will be collected at the top of clay only and will be analyzed for VOCs, TPH, and PCBs. It is proposed that this boring will be completed as an oil recovery well, as discussed in the forthcoming Tank Closure Report.

Area 5: Soil boring HS/2 satisfies the soil sampling requirements for this area. Analytical results for this boring were presented in the Interim Report.

Area 6: A soil boring designated as boring 613 will be drilled just outside Building II at the corner of the tank farm. Samples will be collected from depths of approximately 2 feet and 6 feet (or just above the water table) and analyzed for TPH, VOCs, and PCBs in accordance with the sampling schedule indicated in Table 1.

Area 8: Soil boring 1401 has already been drilled on the building side of the sewer pit and appears to satisfy this requirement. The locations of the boring and the sewer are indicated in Figure 1.

Area 13: Soil boring H/S-1 has already been drilled in this area. Samples collected from a depth of 13 feet BGS were analyzed for VOCs. An additional boring designated as Boring 1304 will be drilled in this area.

Samples collected from this boring from just above the water table and from approximately 2 feet BGS will be analyzed for TPH, VOCs, and PCBs. A sample collected from the top of clay will be analyzed for TPH and PCBs. Because there are numerous abandoned underground utility lines in that area, there is a possibility that one or more pipes running from Building I to manhole MH01 may be severed during drilling. If this should occur, it is proposed that the boring hole be left open in order to monitor whether or not any oily discharges enter the hole from the pipe(s). The purpose of this monitoring would be to attempt to identify the source of oil which appears sporadically in manhole MH01.

e. *Hexcel failed to collect delineation samples at PAS boring C3 (at GL-HS6), as required by the Cleanup Plan Approval.*

RESPONSE

PAS boring C3 was located at the southwest corner of the tank farm (AEC 6). The Final Cleanup Plan approval requires that a boring be drilled in this area and that delineation samples be collected around the boring. Boring 601 satisfies the requirement for a soil boring in this area. Delineation samples that have already been collected and analyzed include boring 1302 to the south, boring 701 to the west, and borings 703 and 901 to the north. Boring 613, discussed above under A.1.d, will provide delineation of chemical distributions to the east.

2. *Item 21 - Storm Sewer Outfall*

a. *Hexcel failed to collect sediment samples for PCBs, as required by the Cleanup Plan Approval. Although the interconnection between the industrial sewer and the storm sewer was closed in March 1990, impacts from previous discharges shall be documented. Because of the long time period (nearly one year) that has elapsed since the sealing of the discharge, downstream sediment samples are required in addition to sediment samples at the discharge point. Hexcel shall, within 30 days of receipt of this letter, sample the sediments at a depth of 0-2 inches at the discharge point and at intervals of 10 feet, 20 feet, and 30 feet downstream. Additionally, all stained or discolored areas in the vicinity of the discharge point shall be sampled. Hexcel shall collect all samples in accordance with the methods specified in the Department's Field Sampling Procedures Manual dated February 1988. In addition, Hexcel shall notify the case manager at least two weeks before implementation of sampling.*

RESPONSE

Hexcel agrees to collect the sediment samples for PCB analysis as requested.

B - GROUND WATER

2. *Determining Off-Site Receptors*

The Department has completed the review of the Proposal to Determine Off-Site Receptors, dated October 15, 1990, and finds the proposal acceptable with the following comment. As stated in the Cleanup Plan Approval, the Department recommends that piezometers be installed in the stream bed and screened in both aquifers. The installation of the piezometers, in conjunction with the staff gages and the sediment samples, would present more conclusive evidence concerning the head relationships between the aquifers and the river in determining whether the lower consolidated aquifer discharges into the stream bed.

RESPONSE

Installation of piezometers in both aquifers in the stream bed is not considered feasible because of anticipated difficulties with access and drilling. Alpine Geophysical recently conducted an investigation for the Army Corps of Engineers which required collection of samples from borings in Saddle Brook. In the course of this investigation, it was determined that borings could not be drilled in Saddle Brook because the current was too strong. In addition, even in the event that wells could be drilled in Saddle Brook, the well heads would likely be damaged during storm flooding, potentially creating a conduit from the stream into the aquifers. We anticipate that the study discussed in our October 15, 1990 proposal will provide adequate evidence that the relationship between the river and the aquifers is as shown in the conceptual cross section shown in Figure 2.

3. *Progress Report Dated November 12, 1990 - Off-Site Monitor Wells*

In order to fully delineate the extent of ground water contamination at the site, it is recommended that Hexcel install the following monitor wells. Wells MW33 and MW34 should be installed off-site, across Main Street. Well MW35 should be installed on-site, behind Vincenzo's Restaurant. Well MW36 should be installed off-site, in front of Vincenzo's. Well MW37 should be installed on-site, north of well MW21. All well locations are shown on the attached plot plan. Drilling, spooning, and well completion specifications are as stated above for MW32.

RESPONSE

Hexcel has unsuccessfully attempted to gain access rights from the residents across Main Street for installation of wells MW33 and MW34. Because permission was not granted by the owners of the properties, these wells cannot be installed as shown. Well MW35 will be installed as requested. Well MW36 cannot be installed because overhead power lines, underground utility lines, and limited space prohibit the use of a drill rig in this area. In addition, construction of a

well in this area would require closing off Main Street, which may not be acceptable to the Borough of Lodi. Well MW37 will be installed as requested.

4. *Site Inspection of December 12, 1990*

During the site inspection conducted on December 20, 1990, it was noted that dense nonaqueous phase liquid (DNAPL) fumes from monitor well MW07 melted the well cap. The Department is concerned over the possibility of the DNAPL fumes degrading the inner PVC casing of the well. Therefore, Hexcel shall conduct an inspection to determine the integrity of the well. Should the integrity of the the well be threatened, Hexcel shall seal the well using tremie groat. Please be advised that wells must be abandoned by a New Jersey licensed well driller certified to abandon wells. Hexcel shall submit the well abandonment forms to the Bureau of Water Allocation, with copies to be submitted to this office. Should you have any questions regarding well abandonment, pelase contact the Bureau of Water Allocation at 609-29202957 for guidance. Should the integrity of the well be threatened, Hexcel shall propose a replacement well which would be compatible with the DNAPL fumes.

RESPONSE

Because degradation of the well casing by DNAPL would likely result in the presence of either DNAPL or high concentrations of solubilized chemicals in the deep aquifer, it is proposed that the concern over the integrity of these deep wells be addressed by collection of ground water samples from the deep aquifer from wells MW07 and MW09. It is emphasized that low concentrations of VOCs in these wells are not indicative of deterioration of the well casings, as VOCs were already detected in these wells immediately following well completion.

5. *Additional Ground Water Requirements*

b. *Hexcel shall, within 30 days of receipt of this letter, install one additional DNAPL delineation/recovery well approximately 30 feet south-southeast of RW7-8, as shown on the attached plot plan. Specifications should be consistent with the other RW7 series wells.*

RESPONSE

Approximately 1,100 gallons of DNAPL have been extracted since the implementation of the DNAPL recovery system and the thickness of the DNAPL layer has been reduced substantially. In June 1991, there was no measurable DNAPL in well RW7-8 or in well RW7-2, the nearest accessible well at that time, as reported in the June Monthly Project Status Report. Product thicknesses in all accessible wells in that area were again measured on August 6, 1991 in order to determine the current lateral extent of DNAPL at the site. The results, which will be reported in the September 15, 1991 progress report, were similar to those reported in the

June Monthly Project Status Report. DNAPL was identified in only three wells. Well RW7-8 was not accessible, but there was no measurable DNAPL in well RW7-1, located less than 20 feet to the north. Because the product thickness measurements in June and August 1991 indicate that the DNAPL layer in this area is negligible, installation of an additional well is not warranted.

c. *Hexcel shall submit, with each Progress Report, ground water contour maps of the static water level from all monitor wells and any recovery wells which allow access in both aquifers. These measurements shall be secured monthly, at a minimum. While the cleanup contractor is conducting continuous work at the site, the static water level measurements shall be collected weekly, at a minimum. This data are critical as a base line for evaluating the hydraulic response of both aquifers to pumping and reinjection. Ground water elevation contour maps shall be produced for each data set for each aquifer and shall be included in the monthly Progress Reports. Additionally, static or pumping water level measurements shall be recorded for the bedrock supply well on the same schedule.*

RESPONSE

Because the static ground water level at the site is not expected to vary significantly prior to the startup of the ground water extraction system, it is proposed that, beginning in September 1991, water level measurements in all wells be conducted on a quarterly basis until the extraction system is in operation. More frequent measurements would be conducted during startup of the ground water recovery system in order to monitor the hydraulic response of the aquifers to pumping.

g. *Hexcel shall determine the static water level in the deep on-site suupply well (non-pumping conditions), and the typical pumping water level. Additionally, the integrity and length of the casing and the total depth of the well shall be determined. The caliper, natural gamma, spontaneous potential and resistivity logs that were run on the top 250 feet of the well in November 1988 should be evaluated to determine if permeable zones exist. Productive zones seem to occur at depths of 62-64 feet and at 125-127 feet. Water samples from discrete relatively productive zones, obtained through packers, should be collected for VO+15 analysis using Method 624. Results of these investigations on the supply well shall be reported in the Progress Report due September 15, 1991.*

RESPONSE

Hexcel is currently contacting drillers in order to determine the feasibility of collecting water samples as specified above. If it is determined that these activities are feasible, Hexcel will conduct the sampling as requested.

6. *Additional Ground Water Concerns*

a. *In order to determine whether the ground water contaminant plume has moved in an easterly direction it is necessary that Hexcel install one additional well (MW32) at the intersection of Main Street an Molnar Road, as indicated on the attached plot plan. In support of this delineation strategy, it is recommended that Hexcel target the total depth of the well to the top of clay, expected at a depth of about 10 feet. Continuous split spoons should be collected from 7 feet to the terminal depth. The screen length should extend from the top of the clay up to within 3 feet of the ground surface. If the clay is not encountered, tremie grout the bottom 10 feet of the borehole and then install five feet of screen. The top of screen should be set at least one foot above the water table, field conditions permitting.*

RESPONSE

Hexcel has installed a monitoring well, designated MW22, on Molnar Road approximately 20 feet west of the Main Street intersection. It is not possible to install a well closer to the intersection because overhead power lines prohibit the use of a drill rig in that area.

We look forward to discussing this sampling plan with you at our meeting the week of August 19, 1991.

Sincerely,

A. William Nosil (ar)

A. William Nosil

cc: Brian Sogorka, BEECRA
Karen Fell, BGWDC

Table 1

Proposed Soil Borings and Monitoring Wells

Former Hexcel Corporation Facility, Lodi, New Jersey

Boring or Well	Sampling interval (feet BGS)	Analysis		
		TPH	VOC	PCB
111	1.5-2.0		x	
	4.5-5.0		x	
	6.0-6.5	x	x	x
	6.5-7.0	x		x
112	6.5-7.0		x	x
113	5.5-6.0	x		
114	5.5-6.0	x	x	
507 (MW35)	6.5-7.0		x	
613	1.0-1.5	x		
	1.5-2.0	x	x	x
	5.5-6.0	x	x	x
1304	7.0-7.5	x		x
MW35	-		x	
MW37	-		x	